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FOLLOW-UP RESEARCH OF MOOSE AND OTHER WILD ANIMALS AT PERNAJA EUROPEAN HIGHWAY E18

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Abstract

The follow up study at Pernaja has continued now for nearly three years. The follow up research has been started before the road was built, it continued during the construction period 1995 -1998. The amounts of animals and the traces of animals were examined. The semi -motorway was opened to traffic in the year 1998, and then started the follow - up research at under passages. At the road there were 11 under passages, which were built for local traffic, but they were suitable also for animals. The road cut 300 km² wide forest area in two pieces and it was fenced with wildlife fence. The only means to cross the road area for bigger animals was to use of under passages. Animals have searched actively passages and they have learned to use them. The species, which have been observed at all under passages, are the moose, the white-tailed deer, the lynx, the mountain hare, the brown hare, the red fox, the racoon dog, the stoat, the red squirrel, the pine marten and the badger. Observations at the district have also been made from the weasel, the roe deer, the wolf, the wild boar and the brown bear.

Constructions have direct and indirect effects to fauna. The direct consequences were the loss of natural land area, 60 ha. The construction noise and presence of human scared animals far from the road line. The effects to smaller game were local. The lost territory areas took a new shape or were replaced with another. The indirect consequences were focused to the moose population, which was split into two parts. The changing pastures became more difficult because the road made a barrier effect to the pasture wanderings. The deaths of small animals increased in spite of the wildlife fence.

Now after three years experience the amounts of animals, which have used the fauna passages, have grown from year to year. The total amount in the first hole year 1999 was 437 animals from which 70-80% was moose. In the second year 2000 the amounts have grown to 547 animals. Now the current year seems to be as good as the former one or even better. The design of underpasses affects to the amounts of users. The small moose bridge transmits twice or three times as much animal traffic than the usual narrow frame bridge. The big moose bridge underpass transmits about 80% of all animal traffic.

Any notable changes has not happened in the population of moose in Pernaja forest area or at Eastern Uusimaa district in consequence of the new fenced highway. The densities of moose have remained the same as before building the road. The moose routes are slightly new shaped after the animals have found the underpasses and the routes are working well. For the smaller wild animals and game the effects of road have been local. The most important thing for them is the proximity of the underpasses rather than the design. New information about the movements of moose has also been attained. The movement pattern of moose is repeated from year to year. Wintertime is quite. In certain week in March the moose start their wandering for their summer pastures. Young ones start their independent life before Midsummer and whole summer and autumn is busy. The yearly weather changes can be seen in results. The wandering to winter pastures starts, when the permanent snow covers the ground. At summertime, when it is hot moose do not move and when summer is cool and rainy, they move.

As a conclusion the research gave evidence that these underpasses have been well adapted among animals and the animal costs in road constructions have been justified and correct. Traffic safety has also improved. The benefits are in traffic safety in reducing accidents between animals and vehicles but also in the nature. The sound and diversified nature assures the ecological functioning of nature and the ecological network.

Biographical Sketch: Seija Väre is the Finnish coordinator of the European International Ecological Network (IENE). She has worked as an environmental planning designer in the consultant office for road and traffic planning for last 12 years. As a postgraduate student at Helsinki University of Technology, Seija's is studying the interaction between land use and nature, the ecological networks. Seija has specialized in ecology in planning, mitigating the habitat fragmentation, and the follow-up strategies. She has also been developing the first green structures in Finland and the national ecological network, conducting the follow-up research at Pernaja fauna passages.